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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/602,400

06/23/2003

Rob C J Smets

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7590

11/03/2006

Docket Administrator (Room 3J-219)
Lucent Technologies Inc.
101 Crawfords Corner Road
Holmdel, NJ 07733-3030

EXAMINER

SEDIGHIAN, REZA

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/602,400

Applicant(s)

SMETS, ROB C J

Examiner

M. R. Sedighian

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/23/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 5-10, 11, and 13-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimbrough et al. (US Patent Application Publication No: 2002/0063924 A1).

Regarding claims 1, 5, 11, 15, and 18, Kimbrough teaches an apparatus for connecting at least one optical line terminal (12, 30, 44, fig. 1) and a plurality of network units (HNUs, fig. 1) in an optical distribution network (10, fig. 1 and figs. 4, 5), the apparatus including a splitter (46, fig. 1) to communicate with the optical line terminal (44, fig. 1) via a first communication channel (page 6, paragraph 0067 and page 7, paragraph 0086) and further adapted to communicate (48, fig. 1) with the plurality of optical network units (HNUs, fig. 1) via a separate second communication channel for each optical network unit (page 3, paragraph 0018 and page 6, paragraph 0067), the splitter (46, fig. 1) being further adapted to pass through all communication signals received from the optical line terminal to all the optical network units (page 2, paragraph 0013 and page 4, paragraph 0051) and to pass through all communication signals received from any one of the plurality of optical network units to the optical line terminal (page 2, paragraph 0014 and page 6, paragraph 0067), the apparatus further characterized in that the splitter is adapted to pass through all communication signals received from any one of the plurality of optical network units to all optical network units (page 2, paragraph 0014 and page 14, paragraph 0148). As to claim 11, Kimbrough further teaches the communication is based on time division multiple access (page 13, paragraphs 0140, 0145) and initializing communication

by one of the plurality of optical network units by sending an initializing message using a predetermined part of the bandwidth available from the optical line terminal (page 9, paragraph 0104); and monitoring the received signal for messages from other ones of the plurality of optical network units for detecting collision of data traffic (pages 13-14, paragraph 0147), and if collision occurs, delaying transmission of further packets by a predetermined amount of time such that no overlap of transmission occur (page 3, paragraph 0018, lines 20-23 and page 9, paragraph 0104).

Regarding claim 2, Kimbrough teaches the splitter (46, fig. 1) is adapted for reflecting all communication signals received from any one of the plurality of optical network units to all the optical network units (page 2, paragraph 0014 and page 14, paragraph 0148).

Regarding claim 6, Kimbrough teaches the optical line terminal (44, fig. 1) is adapted to communicate with a second network (12, fig. 1, optical line terminal receive and transmit the optical signal from central office 12).

Regarding claim 7, Kimbrough teaches the second network element is selected from the group consisting of an internet or an intranet (page 1, paragraph 0003 and page 2, paragraph 0011).

Regarding claims 8 and 16, Kimbrough teaches the optical splitter is adapted to communicate with the optical line terminal via a first communication channel (page 6, paragraph 0067 and page 7, paragraph 0086) and further adapted to communicate with the plurality of optical network units via a separate second communication channel for each optical network unit (page 3, paragraph 0018 and page 6, paragraph 0067).

Regarding claim 9, Kimbrough teaches the optical line terminal (44, fig. 1) comprises a router (30, fig. 1) adapted for connection to the first communication channel (optical SWX 30 distributes or routes different optical signals to fiber line 44).

Regarding claim 10, Kimbrough teaches the router (30, figs. 1, 17) is connectable (44, fig. 17) to a plurality of splitters (46, fig. 1 and 46, 402, 404, fig. 17) via associated first communication channel (page 3, paragraph 0038 and page 13, paragraph 0144).

Regarding claim 13, Kimbrough teaches the step of initializing comprises initializing the plurality of optical network units in a predetermined order (page 3, paragraph 0018).

Regarding claim 14, Kimbrough teaches the step of, at each of the plurality of optical network units, receiving a control message comprising a maximum available bandwidth amount for each of the plurality of optical network units (page 2, paragraph 0014, lines 12-16).

Regarding claims 17 and 19, Kimbrough teaches the splitter is adapted for reflecting all communication signals received from any one of the plurality of optical network units to all the optical network units (page 2, paragraph 0014 and page 14, paragraph 0148).

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimbrough et al. (US Patent Application Publication No: 2002/0063924 A1).

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Regarding claim 12, Kimbrough differs from the claimed invention in that Kimbrough does not specifically disclose measuring the time between sending a message by an optical network unit and receiving the same message by that same optical network unit, and using the measured time to determine the proper start time for transmitting in an assigned time slot. Kimbrough teaches each of the HNUs coupled to a particular splitter/coupler to monitor the upstream transmission from the other HNUs and dynamically adjusts the frequency of its burst upstream transmission in order to maximize upstream bandwidth (page 2, paragraph 0014, lines 12-16). Kimbrough further teaches the system includes a collision avoidance mechanism having a downstream control signal that tells each HNU what time slot they are to communicate on within the upstream TDMA channel (page 3, paragraph 0018; lines 20-23). Accordingly, it would have been obvious that the optical TDMA transmission system of Kimbrough with such monitoring and control circuitries can measure the time between sending a message and receiving the same message, and can use the measured time to determine the proper start time for transmitting an assigned time slot to further avoid the collision and to provide an efficient signal transmission.

5. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimbrough et al. (US Patent Application Publication No: 2002/0063924 A1) in view of Tallone (US Patent Application Publication No: 2002/0136489 A1), or Englund et al. (US Patent Application Publication No: 2003/0156296 A1).

Regarding claims 3-4, Kimbrough differs from the claimed invention in that Kimbrough does not specifically disclose the splitter is a highly reflective mirror. Tallone discloses a coupler or splitter with mirror and Bragg gating (CR1/M1, R2 and page 3, paragraph


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0049). Likewise, Englund teaches a coupler or splitter (32, fig. 2) that is connected to a mirror (38, fig. 2) and fiber Bragg grating (40, fig. 2). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate an optical splitter that is comprised of a mirror and Bragg grating such as the ones of Tallone or Englund for the optical splitter in the transmission network of Kimbrough to selectively redirect the light signals.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (571) 272-3034. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


M. R. SEDIGHIAN
PRIMARY EXAMINER